1. (Currently Amended) A method of connecting threaded tubular members for use in a wellbore, comprising:

rotating a first threaded tubular member relative to a second threaded tubular member, wherein the two threaded members define a shoulder seal;

detecting a shoulder condition during rotation of the first threaded tubular member by calculating and monitoring a rate of change [[of]] in torque with respect to rotation;

stopping rotation of the first threaded member when reaching a predefined rotation value from the shoulder condition.

2. (Canceled)

3. (Previously Presented) The method of claim 1, further comprising measuring torque and rotation at regular intervals.

4. (Canceled)

5. (Previously Presented) The method of claim 1, wherein the shoulder condition occurs when surfaces of the threaded members forming the shoulder seal engage.

6. (Currently Amended) The method of claim 1, wherein the predefined rotation value is selected according to geometry of the threaded members.

7. (Currently Amended) The method of claim 1, further comprising measuring ~~relative~~ relaxation rotation of the first threaded tubular member.

8. (Currently Amended) The method of claim 7, further comprising determining acceptability of the relaxation rotation of the first threaded tubular member.

9. (Previously Presented) The method of claim 1, further comprising measuring torque and rotation at regular intervals; and detecting a seal condition.

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Currently Amended) The method of claim [[1]] 3, further comprising [[:]] determining acceptability of a value measured at the shoulder condition~~; and~~.

14. (Original) The method of claim 13, wherein the measured value is a torque value.

15. (Original) The method of claim 13, wherein the measured value is a rotation value.

16. (Previously Presented) The method of claim 14, further comprising calculating a target rotation value based on the shoulder condition irrespective of a maximum torque limit.

17. (Currently Amended) The method of claim 15, further comprising calculating a target rotation value based on the shoulder condition irrespective of a maximum torque limit.

18. (Currently Amended) The method of claim 13, further comprising detecting a seal condition, ~~and~~ wherein determining acceptability of the measured value comprises determining acceptability of a change in value between a value measured at the shoulder condition and a value measured at the seal condition.

19. (Original) The method of claim 18, wherein the measured values are torque values.

20. (Original) The method of claim 18, wherein the measured values are rotation values.

21. (Previously Presented) The method of claim 18, wherein the measured values are torque and rotation values.

22. (Canceled)

23. (Canceled)

24. (Currently Amended) A system for connecting threaded tubular members for use in a wellbore, comprising:

a power drive unit operable to rotate a first threaded tubular member relative to a second threaded tubular member;

a power drive control system operably connected to the power drive unit, and comprising:

a torque detector;

a turns detector; and

a computer receiving torque measurements taken by the torque detector and rotation measurements taken by the turns detector; wherein the computer is configured to perform an operation, comprising:

rotating the first threaded tubular member relative to the second threaded tubular member, wherein the two threaded members define a shoulder seal;

detecting a shoulder condition during rotation of the first threaded tubular member by calculating and monitoring a rate of change [[of]] in torque with respect to rotation;

stopping rotation of the first threaded member when reaching a predefined rotation value from the shoulder condition.

25. (Original) The system of claim 24, wherein the power drive unit is a power tongs unit and the power drive control system is a power tongs control system.

26. (Original) The system of claim 24, wherein the power drive unit is a top drive unit and the power drive control system is a top drive control system.

27. (Canceled)

28. (Previously Presented) The system of claim 24, wherein the computer comprises a target value calculator for calculating a target rotation value by adding the predefined rotation value to a measured rotation value corresponding to the detected shoulder condition.

29. (Original) The system of claim 24, wherein the predefined value is selected according to geometry of the threaded members.

30. (Original) The system of claim 24, further comprising a database and the operation further comprises collecting data on a threaded connection between the two threaded members and storing the data in the database.

31. (Original) The system of claim 30, wherein the operation further comprises calculating a new predetermined value by statistically analyzing the data in the database.

32. (Original) The system of claim 24, wherein the operation further comprises calculating the predefined value according to statistical analysis of data collected from previous connections.

33. (Currently Amended) The system of claim 24, wherein the operation further comprises measuring ~~relative~~ relaxation rotation ~~between the two threaded members~~ of the first threaded member.

34. (Currently Amended) The system of claim 33, wherein the computer comprises a connection evaluator configured to determine acceptability of ~~relative~~ the relaxation rotation ~~between the two threaded members~~ of the first threaded member.

35. (Currently Amended) The system of claim 24, wherein the operation further comprises issuing a dump signal to stop ~~relative~~ rotation ~~between the two threaded members~~ of the first threaded member before reaching the predefined value from the ~~detected event~~ shoulder condition so that the relative rotation ~~between the two threaded members~~ of the first threaded member is stopped when reaching the predefined value from the ~~detected event~~ shoulder condition.

36. (Currently Amended) The system of claim 26, wherein the top drive comprises a gripping member coupled to an inside of the first threaded member.

37. (Original) The system of claim 26, wherein the top drive comprises a torque head coupled to an outside of the first threaded member.

38. (Original) The system of claim 26, wherein the operation further comprises lowering the two threaded members together after reaching the predefined value.

39. (Original) The system of claim 38, wherein the two threaded members are casing and lowering the threaded members comprises rotating and lowering the threaded members while simultaneously injecting drilling fluid into the threaded members to drill a wellbore.

40. (Previously Presented) The system of claim 26, wherein the computer comprises a connection evaluator configured to evaluate a current state of makeup of

the threaded members according to at least one of a measured torque value and a measured rotation value both corresponding to the detected shoulder condition.

41. (Original) The system of claim 40, wherein the at least one measured value is torque.

42. (Original) The system of claim 40, wherein the at least one measured value is rotation.

43. (Original) The system of claim 40, wherein the at least one measured value is rotation and torque.

44. (Currently Amended) The system of claim 40, wherein the computer further comprises an event detector configured to detect ~~a first event and a second event, wherein the second event is~~ the shoulder condition.

45. (Currently Amended) The system of claim 44, wherein the ~~first event is~~ event detector is further configured to detect a seal condition occurring upon sealing contact of sealing surfaces defined by the threaded members.